

approved water curtain complying with Section 903.3.1.1. The curtain shall be designed and installed to intercept hot gases, flames and smoke, and to prevent a glow from a severe fire on the stage from showing on the auditorium side for a period of 20 minutes. The closing of the curtain from the full open position shall be effected in less than 30 seconds, but the last 8 feet (2438 mm) of travel shall require not less than 5 seconds.

**410.3.5.1 Activation.** The curtain shall be activated by rate-of-rise heat detection installed in accordance with Section 907.10 operating at a rate of temperature rise of 15 to 20°F per minute (8 to 11°C per minute), and by an auxiliary manual control.

**410.3.5.2 Fire test.** A sample curtain with a minimum of two vertical seams shall be subjected to the standard fire test specified in ASTM E 119 for a period of 30 minutes. The curtain shall overlap the furnace edges by an amount that is appropriate to seal the top and sides. The curtain shall have a bottom pocket containing a minimum of 4 pounds per linear foot (58 N/m) of batten. The exposed surface of the curtain shall not glow, and flame or smoke shall not penetrate the curtain during the test period. Unexposed surface temperature and hose stream test requirements are not applicable to the proscenium fire safety curtain test.

**410.3.5.3 Smoke test.** Curtain fabrics shall have a smoke-developed rating of 25 or less when tested in accordance with ASTM E 84.

**410.3.5.4 Tests.** The completed proscenium curtain shall be subjected to operating tests prior to the issuance of a certificate of occupancy.

**410.3.6 Scenery.** Combustible materials used in sets and scenery shall be rendered flame resistant in accordance with Section 805 and the *International Fire Code*. Foam plastics and materials containing foam plastics shall comply with Section 2603 and the *International Fire Code*.

**410.3.7 Stage ventilation.** Emergency ventilation shall be provided for stages larger than 1,000 square feet (93 m<sup>2</sup>) in floor area, or with a stage height greater than 50 feet (15 240 mm). Such ventilation shall comply with Section 410.3.7.1 or 410.3.7.2.

**410.3.7.1 Roof vents.** Two or more vents constructed to open automatically by approved heat-activated devices and with an aggregate clear opening area of not less than 5 percent of the area of the stage shall be located near the center and above the highest part of the stage area. Supplemental means shall be provided for manual operation of the ventilator. Curbs shall be provided as required for skylights in Section 2610.2. Vents shall be labeled.

**410.3.7.2 Smoke control.** Smoke control in accordance with Section 909 shall be provided to maintain the smoke layer interface not less than 6 feet (1829 mm) above the highest level of the assembly seating or above the top of the proscenium opening where a proscenium wall is provided in compliance with Section 410.3.4.

**410.3.8 Stage exits.** At least one approved means of egress shall be provided from each side of the stage; and from each side of the space under the stage. At least one means of escape shall be provided from each fly gallery and from the gridiron. A steel ladder, alternating tread stairway or spiral stairway is permitted to be provided from the gridiron to a scuttle in the stage roof.

**410.4 Platform construction.** Permanent platforms shall be constructed of materials as required for the type of construction of the building in which the permanent platform is located. Permanent platforms are permitted to be constructed of fire-retardant-treated wood for Types I, II, and IV construction where the platforms are not more than 30 inches (762 mm) above the main floor, and not more than one-third of the room floor area and not more than 3,000 square feet (279 m<sup>2</sup>) in area. Where the space beneath the permanent platform is used for storage or any other purpose other than equipment, wiring or plumbing, the floor construction shall not be less than 1-hour fire-resistant construction. Where the space beneath the permanent platform is used only for equipment, wiring or plumbing, the underside of the permanent platform need not be protected.

**410.4.1 Temporary platforms.** Platforms installed for a period of not more than 30 days are permitted to be constructed of any materials permitted by the code. The space between the floor and the platform above shall only be used for plumbing and electrical wiring to platform equipment.

**410.5 Dressing and appurtenant rooms.** Dressing and appurtenant rooms shall comply with Sections 410.5.1 through 410.5.4.

**410.5.1 Separation from stage.** Where the stage height is greater than 50 feet (15 240 mm), the stage shall be separated from dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage and other parts of the building by a fire barrier wall and horizontal assemblies, or both, with not less than a 2-hour fire-resistance rating with approved opening protectives. For stage heights of 50 feet (15 240 mm) or less, the required stage separation shall be a fire barrier wall and horizontal assemblies, or both, with not less a 1-hour fire-resistance rating with approved opening protectives.

**410.5.2 Separation from each other.** Dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage shall be separated from each other by fire barrier wall and horizontal assemblies, or both, with not less than a 1-hour fire-resistance rating with approved opening protectives.

**410.5.3 Opening protectives.** Openings other than to trunk rooms and the necessary doorways at stage level shall not connect such rooms with the stage, and such openings shall be protected with fire door assemblies that comply with Section 714.

**410.6 Automatic sprinkler system.** Stages shall be equipped with an automatic fire-extinguishing system in accordance with Chapter 9. The system shall be installed under the roof and gridiron, in the tie and fly galleries and in places behind the pro-